IN THE CLAIMS

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please **AMEND** claims in accordance with the following.

Please **ADD** new claim 11 as follows.

1. (Original) A multi-wavelength light source, comprising:

an optical pulse light source outputting an optical pulse sequence;

an optical pulse shaping unit making a shape of an optical pulse output from said optical pulse light source into a super Gaussian pulse of a third order or higher;

a spectrum expanding unit expanding a spectrum of an optical pulse sequence composed of shaped optical pulses; and

an optical splitting unit splitting the optical pulse sequence the spectrum of which is expanded into light beams of respective frequencies.

2. (Original) The multi-wavelength light source according to claim 1, wherein

said spectrum expanding unit expands the spectrum by using an optical fiber as a nonlinear medium.

3. (Original) The multi-wavelength light source according to claim 1, wherein

said spectrum expanding unit expands the spectrum by using a highly nonlinear fiber or a holey fiber as a nonlinear medium.

4. (Original) The multi-wavelength light source according to claim 1, wherein

said optical pulse shaping unit comprises

a wavelength splitter performing Fourier transform for the optical pulse sequence,

a spatial modulator controlling an intensity, or an intensity and a phase of a Fourier component, and

a wavelength coupler coupling light beams for which spatial modulation is performed.

5. (Original) The multi-wavelength light source according to claim 4, wherein said wavelength splitter and said wavelength coupler are a diffraction grating or an array waveguide grating filter.

6. (CURRENTLY AMENDED) A multi-wavelength light generating method, comprising:

outputting an optical pulse sequence;

~~making a shape of~~shaping an optical pulse output from an optical pulse light source into a super Gaussian pulse of a third order or higher;

expanding a spectrum of an optical pulse sequence composed of shaped optical pulses; and

splitting the optical pulse sequence the spectrum of which is expanded into light beams of respective frequencies.

7. (CURRENTLY AMENDED) The multi-wavelength light generating method according to claim 6, wherein the spectrum ~~is expanded by~~expanding comprises using an optical fiber as a nonlinear medium ~~in said spectrum expansion~~to expand the spectrum.

8. (CURRENTLY AMENDED) The multi-wavelength light generating method according to claim 6, wherein the spectrum ~~is expanded by~~expanding comprises using a highly nonlinear fiber or a holey fiber as a nonlinear medium ~~in said spectrum expansion~~.

9. (Original) The multi-wavelength light generating method according to claim 6, wherein

said light pulse shaping comprises

performing Fourier transform for the optical pulse sequence,

controlling an intensity, or an intensity and a phase of a Fourier component, and

coupling light beams for which spatial modulation is performed.

10. (Original) The multi-wavelength light generating method according to claim 9, wherein

a diffraction grating or an array waveguide grating filter is used in said Fourier transform performing and said coupling.

11. (NEW) An apparatus, comprising:

an optical pulse light source to output an optical pulse sequence;

an optical pulse shaper to shape an optical pulse output from said optical pulse light source into a super Gaussian pulse of a third order or higher;

a spectrum expander to expand a spectrum of the optical pulse sequence composed of shaped optical pulses from the optical pulse shaper; and

an optical splitter to split the expanded spectrum of shaped optical pulses into light beams of respective frequencies.